(19) World Intellectual Property Organization International Bureau





(43) International Publication Date 15 April 2004 (15.04.2004)

PCT

(10) International Publication Number WO 2004/030636 A2

(51) International Patent Classification7:

A61K

(21) International Application Number:

PCT/US2003/031726

(22) International Filing Date: 2 October 2003 (02.10.2003)

(25) Filing Language:

English

(26) Publication Language:

English

(30) Priority Data: 60/415,929

3 October 2002 (03.10.2002) US

- (71) Applicant (for all designated States except US): WYETH HOLDINGS CORPORATION [US/US]; 5 Giralda Farms, Madison, NJ 07940 (US).
- (72) Inventors; and
- (75) Inventors/Applicants (for US only): SMITH, Larry [US/US]; 2 Ewald Place, Stony Point, NY 10980 (US). CASSETTI, Maria, Cristina [IT/US]; 8217 Scotch Bend Way, Potomac, MD 20854 (US).
- (74) Agents: FEHLNER, Paul, F. et al.; Darby & Darby, P.C., P.O. Box 5257, New York, NY 10150-5257 (US).

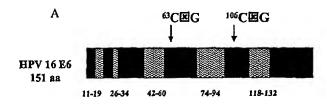
- (81) Designated States (national): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.
- (84) Designated States (regional): ARIPO patent (GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PT, RO, SE, SI, SK, TR), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

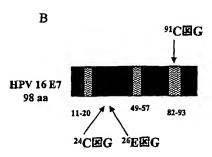
Published:

 without international search report and to be republished upon receipt of that report

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: HUMAN PAPILLOMAVIRUS POLYPEPTIDES AND IMMUNOGENIC COMPOSITIONS





(57) Abstract: The present invention provides immunogenic and pharmaceutical compositions for the treatment and prevention of human papillomavirus (HPV)-associated cancers and in particular, cervical cancer. In particular, this invention relates to fusion proteins, and the nucleic acids encoding these fusion proteins, used to generate immune responses against HPV. Specifically, this invention provides for fusions of HPV E6 and E7 in which the E6 and/or E7 contains one or more mutations. These mutations abrogate the transformation activity of these oncogenic proteins and, thus, confer safety to the E6/E7 fusions. In addition, these fusions maintain or increase the immunogenic efficacy of E6 and E7. Any gene or protein delivery method can be used to deliver or package the immunogenic compositions of the present invention.

